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(54) A volume rendering apparatus and method

(57) Volume rendering apparatus including a voxel memory, a parameter provider, an address generator, a mapping unit, an image memory and a blender. The voxel memory stores original volume data. A parameter provider calculates a parameter of a volume plane which slices the volume object orthogonally to a direction of view, calculates a parameter of a three-dimensional mapping plane which slices the mapping object according to a point of view coordinate system and converts the three-dimensional mapping plane to a two-dimensional mapping plane. An address generator generates voxel memory addresses and image memory addresses and a mapping unit maps the volume plane on each of the mapping planes. An image memory stores mapping data and rendering data and a blender performs blending of data in the image memory and data on each of the mapping planes and writes the blended data back in the image memory.

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EUROPEAN SEARCH REPORT

Application Number
EP 96 11 0667

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	FUCHS H ET AL: "INTERACTIVE VISUALIZATION OF 3D MEDICAL DATA" COMPUTER, vol. 22, no. 8, August 1989, pages 46-51, XP000047492 * page 47, left-hand column, line 42 - column CENTRAL, line 61 *	1	G06T17/00 G06T11/00
A	BARILLOT C: "SURFACE AND VOLUME RENDERING TECHNIQUES TO DISPLAY 3-D DATA AN OVERVIEW OF BASIC PRINCIPLES SHOWS ADVANCES IN DISPLAY TECHNIQUES" IEEE ENGINEERING IN MEDICINE AND BIOLOGY MAGAZINE, vol. 12, no. 1, 1 March 1993, pages 111-119, XP000345179		
A	US 4 835 688 A (KIMURA TOKUNORI)		
A	SCHLUSSELBERG D S ET AL: "Three-dimensional display of medical image volumes" PROCEEDINGS OF THE SEVENTH ANNUAL CONFERENCE AND EXPOSITION: COMPUTER GRAPHICS '86, ANAHEIM, CA, USA, 11-15 MAY 1986, ISBN 0-941514-10-2, 1986, FAIRFAX, VA, USA, NAT. COMPUT. GRAPHICS ASSOC, USA, pages 114-123 vol.3, XP002051611		TECHNICAL FIELDS SEARCHED (Int.Cl.6) G06T

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	9 January 1998	Perez Molina, E

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
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E : earlier patent document, but published on, or after the filing date
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